

Publication

**EP 0541221 A3 19940112**

Application

**EP 92308141 A 19920909**

Priority

US 78860791 A 19911106

Abstract (en)

[origin: EP0541221A2] A method and apparatus for erasing Flash EPROM cells that avoids overerasure is provided. A high-impedance device is placed between the drain of the cell and the high-voltage supply used to erase the cell. As soon as the cell enters the onset of depletion and begins to conduct, most of the high voltage is dropped across the high-impedance device, leaving insufficient potential across the cell for Fowler-Nordheim tunneling to continue. The erase process is thus self-limiting. The process can be used on a chain or array of EPROM cells, with erasure stopping when any one of the cells conducts. Bias differences between erase and read modes assure that the cell that first goes into depletion is not in depletion in normal operation.

IPC 1-7

**G11C 16/06**

IPC 8 full level

**G11C 16/02** (2006.01); **G11C 16/04** (2006.01); **G11C 16/14** (2006.01); **G11C 16/16** (2006.01); **G11C 17/00** (2006.01); **H03K 19/173** (2006.01); **H03K 19/177** (2006.01)

CPC (source: EP US)

**G11C 16/14** (2013.01 - EP US); **G11C 16/16** (2013.01 - EP US); **G11C 16/3477** (2013.01 - EP US)

Citation (search report)

- [YA] GB 2220811 A 19900117 - SEEQ TECHNOLOGY INC [US]
- [A] EP 0108681 A2 19840516 - FAIRCHILD CAMERA INSTR CO [US]
- [A] EP 0052566 A2 19820526 - FAIRCHILD CAMERA INSTR CO [US]
- [Y] KUPEC ET AL: "Triple level silicon E2PROM with single transistor per bit", INTERNATIONAL ELECTRON DEVICES MEETING, 8 December 1980 (1980-12-08), WASHINGTON, US, pages 602 - 606

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EP0621603A1; US5493141A; EP0661718B1

Designated contracting state (EPC)

BE DE DK ES FR GB GR IE IT LU NL PT

DOCDB simple family (publication)

**EP 0541221 A2 19930512**; **EP 0541221 A3 19940112**; **EP 0541221 B1 19971203**; DE 69223379 D1 19980115; JP H06251592 A 19940909; US 5220533 A 19930615

DOCDB simple family (application)

**EP 92308141 A 19920909**; DE 69223379 T 19920909; JP 29595392 A 19921105; US 78860791 A 19911106